

Contents

Overview of the Valuation Process.....	3
Completing a Property Record Card	4
Task 1-Recording Information.....	6
Task 2-Determining the Base Rate	12
Using Area (Square Footage).....	14
Using Whole Dollar Amounts	15
Using Linear Feet.....	19
Using Other Methods.....	20
Task 3-Determining the Adjusted Base Rate and Replacement Cost	21
Task 4-Calculating the Remainder Value.....	24
Task 5-Calculating the True Tax Value.....	27
Task 6-Calculating the Total True Tax Improvement Value.....	29

Tables

Table 7-1. Condition Codes	9
----------------------------------	---

Figures

Figure 7-1. Summary of Improvements Section.....	5
Figure 7-2. Columns Completed in Task 1	7
Figure 7-3. Summary of Improvements Example	11
Figure 7-4. Columns Completed in Task 2.....	13
Figure 7-5. Columns Completed in Task 3.....	22
Figure 7-6. Columns Completed in Task 4.....	25
Figure 7-7. Columns Completed in Task 5.....	28

This chapter describes the process used for valuing commercial and industrial yard structures. This chapter first presents an overview of the valuation process. The rest of this chapter provides step-by-step instructions for calculating and entering information about commercial and industrial yard structures in the “Summary of Improvements” section of the property record card. The necessary cost schedules are included in Appendix G and depreciation tables are included in Appendix F.

Commercial and industrial yard structures included in the following categories:

- fencing
- masonry walls
- paving
- guard rails
- railroad siding
- retaining walls
- bulkhead piling
- commercial boat docking facilities
- bridges
- dry and liquid storage tanks and bins
- standpipes and surface reservoirs
- earth dikes
- grain elevators and supporting structures
- stacks and incinerators
- drive-in theaters
- chimneys
- greenhouses
- car wash structures
- golf courses
- athletic facilities and surfaces
- mobile home parks
- swimming pools
- riverboats
- commercial solar heating and cooling systems
- geothermal heating and cooling systems
- landfill liners

Overview of the Valuation Process

The valuation of commercial and industrial yard structures involves the application of various models to represent typical types of construction. Each model assumes that there are certain elements of construction that can be defined as specifications. These specifications create the average or “C” grade. Unlike commercial and industrial buildings that are constructed with a vast range of quality materials and design, the quality of construction materials and design of yard structures is more consistent. Because of the variety of construction materials in commercial and industrial yard structures, some of the schedules use adjustments rather than grade classification to account for the variations in the quality of construction materials.

The commercial and industrial pricing schedules for yard structures consist of either whole dollar or square foot unit values. These structures generally are detached from the commercial or industrial building and are recorded and priced separately in the “Summary of Improvements” section of the property record card.

To use the commercial and industrial pricing schedules, identify the type of structure and select the most representative price based on the description given. The rates given for certain items, such as running tracks, golf courses, drive-in theaters, and mobile home parks, include both unit or component costs and typical installation costs.

Space is provided to itemize all buildings and yard structures in the “Summary of Improvements” section of the commercial and industrial property record card. If more space is needed, use additional cards.

When collecting data about a yard structure, review the appropriate pricing schedule to determine the features that are included in the model. Some of the schedules, such as for golf courses and mobile home parks, have detailed cost, and condition descriptions. Review these schedules carefully before beginning the assessment.

Completing a Property Record Card

The valuation of commercial and industrial yard structures is recorded in the “Summary of Improvements” section of the property record card, shown in Figure 7-1. Space is provided in the table to itemize each yard structure. Each row corresponds to one particular yard structure. The true tax value of all of the yard structures is totaled at the bottom of the of the “Summary of Improvements” section.

Note: If the property has more yard structures than there are rows in this section of the property record card, use an additional card (or cards) to describe those yard structures.

The steps for completing the property record card for commercial and industrial yard structures are grouped into the following tasks, described in the sections below:

- Task 1—Record information about the yard structure.
- Task 2—Determine the base rate for the yard structure.
- Task 3—Determine the adjusted base rate and replacement cost for the yard structure.
- Task 4—Calculate the remainder value of the yard structure.
- Task 5—Calculate the true tax value of the yard structure.
- Task 6—After performing Task 1 through Task 5 for each yard structure on the property, calculate the total true tax value for the property.

Task 1—Recording Information

In this task, you provide descriptive information about the characteristics of the yard structure. The shading in Figure 7-2 indicates the columns of the “Summary of Improvements” table that you complete in this task.

IMPROVEMENT DATA AND COMPUTATIONS																	
Circle One →																	
Pricing Key																	
S.F. AREA																	
Effective Perimeter																	
P.A.R.																	
Number of units																	
Average unit size																	
Floor																	
Basement																	
1st																	
2nd																	
3rd																	
4th																	
Frame Adj. [±]																	
Wall Hght. Adj. [±]																	
Base Price																	
B.P.A. %																	
Sub-total																	
Unit Finish																	
Interior Finish																	
Div./Ptn. Walls																	
Lighting																	
Heating/Air Cond																	
Sprinkler																	
S.F. Price																	
Area																	
Sub-total																	
Plumbing																	
Special Features																	
Exterior Features																	
TOTAL BASE																	
Location Multiplier																	
Grade Factor																	
Replacement Cost																	
O T E N																	
SUMMARY OF IMPROVEMENTS																	
ID	Use	Story Height	Const. Type	Grade	Year Const.	Eff. Age	Cond.	Base Rate	Features	L/I/M	Adj. Rate	Site or Area	Replacement Cost	Norm. Depr.	Remainder Value	Obso. Depr.	True Tax Value
01																	
02																	
03																	
04																	
05																	
06																	
07																	
08																	
09																	
10																	
11																	
12																	
13																	
										Data Collector / Date		Appraiser / Date		Total True Tax Improvement Value			

Figure 7-2. Columns Completed in Task 1

To record information about the structure, perform these steps:

- Step 1 In the “ID” column, select an identification number for each individual yard structure. Record the information about the yard structure in the row corresponding to this identification number. Also, use this number to identify the location of each yard structure relative to the structure or structures in the sketch area.
- Step 2 In the “Use” column, enter the present and predominant use of the yard structure.
- Step 3 *If the structure is a yard building*, in the “Story Height” column, enter the height of the structure in feet, measured from the floor to the eave.
- Step 4 In the “Const. Type” column, enter the type of construction material used to construct the yard structure.
- Step 5 In the “Grade” column, enter the grade for the yard structure. Information about determining the grade for a yard structure is provided in the section *Assigning Grades to Commercial Yard Structures* in Appendix E.
- Step 6 In the “Year Const.” column, indicate when the yard structure was originally constructed. Follow these guidelines:
- If you are sure of the date, enter just the date, for example “1949”.
 - If you (the assessor) must estimate the date, enter the date followed by a question mark, for example “1945?”.
 - If the owner estimates the date, enter the date followed by “+/-”, for example “1945+/-”.
 - Enter “Old” to indicate construction prior to 1928. If the structure is depreciated from the commercial swimming pool depreciation table enter “Old” if constructed prior to 1974.
- Step 7 *Swimming pools only. If the pool shows excessive physical deterioration for its age and you have subtracted six (6) years from its construction year*, you must enter the new year in the “Eff. Age” column. This is explained in the section *Using the Swimming Pools Depreciation Tables* Appendix F.
- If the pool’s remaining economic life has not been altered*, leave this column blank.
- Step 8 In the “Cond.” column, enter the code indicating the assigned condition of the yard structure relative to its age. Table 7-1 describes the codes for this column.
- Note:** Instructions for determining the condition code for a yard structure are provided in Appendix F.

Table 7-1. Condition Codes

Code	Indicated Depreciation
Excellent	The structure is in like-new physical condition and has been well maintained. It has been modernized and updated and suffers from no inutilities.
Good	The structure has been maintained in better physical condition than the majority of structures of its age and suffers from no deferred maintenance. It offers more amenities and has better utility than the majority of the structures of its design.
Average	The structure has been maintained like and is in the typical physical condition of the majority of structures of its age. It offers the same utility as the majority of the structures of its design.
Fair	The structure suffers from minor deferred maintenance and demonstrates less physical maintenance than the majority of structures of its age. It suffers from minor inutilities in that it lacks an amenity that the majority of structures of its design offer.
Poor	Many repairs needed; the structure suffers from extensive deferred maintenance. It suffers from major inutilities in that it lacks several amenities that the majority of structures of its design offer. However, it is still being put to some use in the farming operation.
Very Poor	Extensive repairs needed; the structure suffers from extensive deferred maintenance and is near the end of its physical life. It suffers from extensive inutilities in that it lacks most amenities that the majority of structures of its age and design offer. Poor location for the type of structure.

Step 10 In the “Features” column, enter any pertinent information for any features that alter the base rate for the yard structure.

Step 11 In the “L/M” column, enter the location cost multiplier for your county, which can be found in Table G-1 in Appendix G.

Step 12 In the “Size or Area” column, enter the size or area of the yard structure. “Size” refers to the dimensions of the yard structure, such as length and width or diameter and height. “Area” refers to the square foot ground area of the yard structure.

To determine whether to enter the size (and if size is used, exactly which dimensions) or the area of the yard structure, refer to the cost schedule

for the yard structure type. Measure the dimensions and use the same units of measurement as the appropriate cost schedule uses.

Example: A 28,640 square foot, grade C parking lot is paved with 2 (two) inches of asphalt on an 8-inch base. The lot was built in 1981 and is in average condition. The lot is surrounded on three sides by a grade C, 8-foot galvanized chain link fence, with a gauge size of 7. There is 510 linear feet of fencing.

IMPROVEMENT DATA AND COMPUTATIONS										SUMMARY OF IMPROVEMENTS									
Walls					Roofing					Circle One →					Circle Two →				
Walls					Roofing					1 or A					2 or B				
Walls					Roofing					3 or C					4 or D				
Walls					Roofing					5 or E					6 or F				
Walls					Roofing					7 or G					8 or H				
Walls					Roofing					9 or I					10 or J				
Walls					Roofing					11 or K					12 or L				
Walls					Roofing					13 or M					14 or N				
Walls					Roofing					15 or O					16 or P				
Walls					Roofing					17 or Q					18 or R				
Walls					Roofing					19 or S					20 or T				
Walls					Roofing					21 or U					22 or V				
Walls					Roofing					23 or W					24 or X				
Walls					Roofing					25 or Y					26 or Z				
Walls					Roofing					27 or AA					28 or AB				
Walls					Roofing					29 or AC					30 or AD				
Walls					Roofing					31 or AE					32 or AF				
Walls					Roofing					33 or AG					34 or AH				
Walls					Roofing					35 or AI					36 or AJ				
Walls					Roofing					37 or AK					38 or AL				
Walls					Roofing					39 or AM					40 or AN				
Walls					Roofing					41 or AO					42 or AP				
Walls					Roofing					43 or AQ					44 or AR				
Walls					Roofing					45 or AS					46 or AT				
Walls					Roofing					47 or AU					48 or AV				
Walls					Roofing					49 or AW					50 or AX				
Walls					Roofing					51 or AY					52 or AZ				
Walls					Roofing					53 or BA					54 or BB				
Walls					Roofing					55 or BC					56 or BD				
Walls					Roofing					57 or BE					58 or BF				
Walls					Roofing					59 or BG					60 or BH				
Walls					Roofing					61 or BI					62 or BJ				
Walls					Roofing					63 or BK					64 or BL				
Walls					Roofing					65 or BM					66 or BN				
Walls					Roofing					67 or BO					68 or BP				
Walls					Roofing					69 or BQ					70 or BR				
Walls					Roofing					71 or BS					72 or BT				
Walls					Roofing					73 or BU					74 or BV				
Walls					Roofing					75 or BW					76 or BX				
Walls					Roofing					77 or BY					78 or BZ				
Walls					Roofing					79 or CA					80 or CB				
Walls					Roofing					81 or CC					82 or CD				
Walls					Roofing					83 or CE					84 or CF				
Walls					Roofing					85 or CG					86 or CH				
Walls					Roofing					87 or CI					88 or CJ				
Walls					Roofing					89 or CK					90 or CL				
Walls					Roofing					91 or CM					92 or CN				
Walls					Roofing					93 or CO					94 or CP				
Walls					Roofing					95 or CQ					96 or CR				
Walls					Roofing					97 or CS					98 or CT				
Walls					Roofing					99 or CU					100 or CV				
Walls					Roofing					101 or CW					102 or CX				
Walls					Roofing					103 or CY					104 or CZ				
Walls					Roofing					105 or DA					106 or DB				
Walls					Roofing					107 or DC					108 or DD				
Walls					Roofing					109 or DE					110 or DF				
Walls					Roofing					111 or DG					112 or DH				
Walls					Roofing					113 or DI					114 or DJ				
Walls					Roofing					115 or DK					116 or DL				
Walls					Roofing					117 or DM					118 or DN				
Walls					Roofing					119 or DO					120 or DP				
Walls					Roofing					121 or DQ					122 or DR				
Walls					Roofing					123 or DS					124 or DT				
Walls					Roofing					125 or DU					126 or DV				
Walls					Roofing					127 or DW					128 or DX				
Walls					Roofing					129 or DY					130 or DZ				
Walls					Roofing					131 or EA					132 or EB				
Walls					Roofing					133 or EC					134 or ED				
Walls					Roofing					135 or EE					136 or EF				
Walls					Roofing					137 or EG					138 or EH				
Walls					Roofing					139 or EI					140 or EJ				
Walls					Roofing					141 or EK					142 or EL				
Walls					Roofing					143 or EM					144 or EN				
Walls					Roofing					145 or EO					146 or EP				
Walls					Roofing					147 or EQ					148 or ER				
Walls					Roofing					149 or ES					150 or ET				
Walls					Roofing					151 or EU					152 or EV				
Walls					Roofing					153 or EW					154 or EX				
Walls					Roofing					155 or EY					156 or EZ				
Walls					Roofing					157 or FA					158 or FB				
Walls					Roofing					159 or FC					160 or FD				
Walls					Roofing					161 or FE					162 or FF				
Walls					Roofing					163 or FG					164 or FH				
Walls					Roofing					165 or FI					166 or FJ				
Walls					Roofing					167 or FK					168 or FL				
Walls					Roofing					169 or FM					170 or FN				
Walls					Roofing					171 or FO					172 or FP				
Walls					Roofing					173 or FQ					174 or FR				
Walls					Roofing					175 or FS					176 or FT				
Walls					Roofing					177 or FU					178 or FV				
Walls					Roofing					179 or FW					180 or FX				
Walls					Roofing					181 or FY					182 or FZ				
Walls					Roofing					183 or GA					184 or GB				
Walls					Roofing					185 or GC					186 or GD				
Walls					Roofing					187 or GE					188 or GF				
Walls					Roofing					189 or GG					190 or GH				
Walls					Roofing					191 or GI					192 or GJ				
Walls					Roofing					193 or GK					194 or GL				
Walls					Roofing					195 or GM					196 or GN				
Walls					Roofing					197 or GO					198 or GP				
Walls					Roofing					199 or GQ					200 or GR				
Walls					Roofing					201 or GS					202 or GT				
Walls					Roofing					203 or GU					204 or GV				
Walls					Roofing					205 or GW					206 or GX				
Walls					Roofing					207 or GY					208 or GZ				
Walls					Roofing					209 or HA					210 or HB				
Walls					Roofing					211 or HC					212 or HD				
Walls					Roofing					213 or HE					214 or HF				
Walls					Roofing					215 or HG					216 or HH				
Walls					Roofing					217 or HI					218 or HJ				
Walls					Roofing					219 or HK					220 or HL				
Walls					Roofing					221 or HM					222 or HN				
Walls					Roofing					223 or HO					224 or HP				
Walls					Roofing					225 or HQ					226 or HR				
Walls					Roofing					227 or HS					228 or HT				
Walls					Roofing					229 or HU					230 or HV				
Walls					Roofing					231 or HW					232 or HX				
Walls					Roofing					233 or HY					234 or HZ				
Walls					Roofing					235 or IA					236 or IB				
Walls					Roofing					237 or IC					238 or ID				
Walls					Roofing					239 or IE					240 or IF				
Walls					Roofing					241 or IG					242 or IH				
Walls					Roofing					243 or II					244 or IJ				
Walls					Roofing					245 or IK					246 or IL				
Walls					Roofing					247 or IM					248 or IN				
Walls					Roofing					249 or IO					250 or IP				
Walls					Roofing					251 or IQ					252 or IR				
Walls					Roofing					253 or IS					254 or IT				
Walls					Roofing					255 or IU					256 or IV				
Walls					Roofing					257 or IW					258 or IX				
Walls					Roofing					259 or IY					260 or IZ				
Walls					Roofing					261 or JA					262 or JB				
Walls					Roofing					263 or JC					264 or JD				
Walls					Roofing					265 or JE					266 or JF				
Walls					Roofing					267 or JG					268 or JH				
Walls					Roofing					269 or JI					270 or JJ				
Walls					Roofing					271 or JK					272 or JL				
Walls					Roofing					273 or JM					274 or JN				
Walls					Roofing					275 or JO					276 or JP				
Walls					Roofing					277 or JQ					278 or JR				
Walls					Roofing					279 or JS					280 or JT				
Walls					Roofing					281 or JU					282 or JV				
Walls					Roofing					283 or JW					284 or JX				
Walls					Roofing					285 or JY					286 or JZ				
Walls					Roofing					287 or KA					288 or KB				
Walls					Roofing					289 or KC					290 or KD				
Walls					Roofing					291 or KE					292 or KF				
Walls					Roofing					293 or KG					294 or KH				
Walls					Roofing					295 or KI					296 or KJ				
Walls					Roofing					297 or KK					298 or KL				
Walls					Roofing					299 or KM					300 or KN				
Walls					Roofing					301 or KO					302 or KP				
Walls					Roofing					303 or KQ					304 or KR				
Walls					Roofing					305 or KS					306 or KT				
Walls					Roofing					307 or KU					308 or KV				
Walls					Roofing					309 or KW					310 or KX				
Walls					Roofing					311 or KY					312 or KZ				
Walls					Roofing					313 or LA					314 or LB				
Walls					Roofing					315 or LC					316 or LD				
Walls					Roofing					317 or LE					318 or LF				
Walls					Roofing					319 or LG					320 or LH				
Walls					Roofing					321 or LI					322 or LJ				
Walls					Roofing					323 or LK					324 or LL				
Walls					Roofing					325 or LM					326 or LN				
Walls					Roofing					327 or LO					328 or LP				
Walls					Roofing					329 or LQ					330 or LR				
Walls					Roofing					331 or LS					332 or LT				
Walls					Roofing					333 or LU					334 or LV				
Walls					Roofing					335 or LW					336 or LX				
Walls					Roofing					337 or LY					338 or LZ				
Walls					Roofing					339 or MA					340 or MB				
Walls					Roofing					341 or MC					342 or MD				
Walls					Roofing					343 or ME					344 or MF				
Walls					Roofing					345 or MG					346 or MH				
Walls					Roofing					347 or MI					348 or MJ				
Walls					Roofing					349 or MK					350 or ML				
Walls					Roofing					351 or MM					352 or MN				
Walls					Roofing					353 or MO					354 or MP				
Walls					Roofing					355 or MQ					356 or MR				
Walls					Roofing					357 or MS					358 or MT				
Walls					Roofing					359 or MU					360 or MV				
Walls					Roofing					361 or MW					362 or MX				
Walls					Roofing					363 or MY					364 or MZ				
Walls					Roofing					365 or NA					366 or NB				
Walls					Roofing					367 or NC					368 or ND				
Walls					Roofing					369 or NE					370 or NF				
Walls					Roofing					371 or NG					372 or NH				
Walls					Roofing					373 or NI					374 or NJ				
Walls					Roofing					375 or NK					376 or NL				
Walls					Roofing					377 or NM					378 or NN				
Walls					Roofing					379 or NO					380 or NP				
Walls					Roofing					381 or NQ					382 or NR				
Walls					Roofing					383 or NS					384 or NT				
Walls					Roofing					385 or NU					386 or NV				
Walls					Roofing					387 or NW					388 or NX				
Walls					Roofing					389 or NY					390 or NZ				
Walls					Roofing					391 or OA					392 or OB				
Walls					Roofing					393 or OC					394 or OD				
Walls					Roofing					395 or OE					396 or OF				
Walls					Roofing					397 or OG					398 or OH				
Walls					Roofing					399 or OI					400 or OJ				
Walls					Roofing					401 or OK					402 or OL				
Walls					Roofing					403 or OM					404 or ON				
Walls					Roofing					405 or OO					406 or OP				
Walls					Roofing					407 or OQ					408 or OR				
Walls					Roofing					409 or OS					410 or OT				
Walls					Roofing					411 or OU					412 or OV				
Walls					Roofing					413 or OW					414 or OX				
Walls					Roofing					415 or OY					416 or OZ				
Walls					Roofing					417 or PA					418 or PB				
Walls					Roofing					419 or PC					420 or PD				
Walls					Roofing					421 or PE					422 or PF				

Task 2—Determining the Base Rate

You determine the base rate for the structure using the cost schedule for the appropriate type of structure. The cost schedules for commercial and industrial yard structures contain a variety of methods for determining the base rate for specific types of yard structures. These methods include square foot rates, linear foot rates, bushel capacity rates, site rates, cubic foot rates, golf course hole rates, person rates, wall surface rates, and whole dollar unit values. The cost schedules are provided in Appendix G.

The cost schedules are based on a “C” grade unless otherwise specified. Each schedule includes base rates for the typical range of size or configuration for the type of yard structure.

The shading in Figure 7-4 indicates the columns of the “Summary of Improvements” section that you complete when determining the base rate for a structure.

Using Area (Square Footage)

The cost schedules that use a square foot base rate are separated into two distinct types:

Type 1 Flat square foot rate dependent on the construction material:

- paving
- commercial dock facilities (piers)
- artificial turf
- running tracks
- car wash buildings (drive through)
- landfill liners
- bridges

Type 2 Variable square foot rates dependent on the size of the structure and type of construction materials:

- greenhouses
- swimming pools
- commercial solar heating and cooling systems.

Type 1 Structures Based on Square Foot Rate

To determine the base rate for a Type 1 yard structure based on a square foot rate, perform these steps:

- Step 1 Based on the type of yard structure, locate the appropriate cost schedule.
- Step 2 Locate the type of construction material that best represents the subject yard structure.
- Step 3 In the “Base Rate” cell in the “Summary of Improvements” section, enter the base rate.

Note: There should be no need to interpolate or extrapolate rates using these schedules.

Type 2 Structures Based on Square Foot Rate

To determine the base rate for a Type 2 yard structure based on a square foot rate, perform these steps:

- Step 1 Based on the type of yard structure, locate the appropriate cost schedule.
- Step 2 Locate the row containing the construction material that best represents the subject yard structure.
- Step 3 In the “Area” column of the selected cost schedule, locate the row corresponding to the square footage of the yard structure which you entered in the “Size and Area” column in the “Summary of Improvements” section.

If the area of the structure is within the square foot parameters of the cost schedule, use the area in the cost schedule that is nearest to the actual square footage of the structure to determine the base rate.

If the area of the structure is less than the smallest square foot area of the cost schedule, use the area in the smallest square foot area column, to determine the base rate.

If the area of the structure is larger than the largest square foot area of the cost schedule, use the rate identified in the “Over” or “Area+” column.

- Step 4 Find the intersection of the selected row (area in square feet) and the appropriate column. In the “Summary of Improvements” section, enter the number that you find in the “Base Rate” column.

Note: The column headings vary in the cost schedules. Often there are separate columns for different types of construction. The various Type 1 and Type 2 cost schedules are included in Appendix G.

Using Whole Dollar Amounts

The cost schedules that use a whole dollar amount are separated into four distinct types:

- Type 1 Whole dollar amount is dependent on the storage capacity of the yard structure:
- oil storage tanks
 - welded steel pressure tanks
 - wood water storage
 - standpipes and surface reservoirs
 - bulk storage tanks
 - fuel oil tanks.
- Type 2 Whole dollar amount is dependent on the diameter and height of the yard structure:
- commercial docking facilities (cells)
 - dry storage bins
 - brick and concrete stacks.
- Type 3 Whole dollar amount is dependent on the capacity and height of the yard structure:
- elevated steel tanks
 - towers.
- Type 4 Whole dollar amount is dependent on specific attributes other than those named above:

- incinerators (pounds per hour)
- do-it-yourself car wash buildings (per item)
- shuffleboard courts (per court)
- small boat marina (per slip)
- geothermal heating and cooling systems (per ton)
- tennis courts (per court)
- paddle tennis courts (per set)

Type 1 Structures Based on Whole Dollar Rate

To determine the base rate for a Type 1 yard structure based on a whole dollar rate, perform these steps:

- Step 1 Based on the type of yard structure, locate the appropriate cost schedule.
- Step 2 Locate the capacity on the schedule that best represents the capacity of the subject yard structure. Note the corresponding whole dollar amount.
- Step 3 In the “Base Rate” cell in the “Summary of Improvements” section, enter the whole dollar amount determined in Step 2.

If the capacity of the yard structure lies within the parameters of the cost tables, use the capacity in the cost schedules that is nearest to the actual capacity of the structure to determine the whole dollar amount.

If the capacity of the yard structure is larger than the largest capacity or smaller than the smallest capacity provided in the cost schedules, extrapolate to calculate the amount to add to or subtract from the whole dollar amount. When extrapolating, follow these guidelines:

- (a) For a capacity larger than the capacity listed on the schedule, calculate the difference between the amount of the largest capacity and the amount of the next largest capacity. Add this difference to the amount of the largest capacity for each increment of capacity difference between the largest and the next largest capacity.
- (b) For a capacity smaller than the capacity listed on the schedule, calculate the difference between the amount of the smallest capacity and the amount of the next smallest capacity. Subtract this difference from the amount of the smallest capacity for each increment of capacity difference between the smallest and the next smallest capacity.

Example 1—Size within the ranges: A fuel oil tank has a capacity of 6,000 gallons. Perform these steps:

- 1 Locate the fuel oil tank schedule.
- 2 The capacity of the subject structure is closest to 5,000 gallons.

- 3 In the “Base Rate” cell, enter the whole dollar amount for a 5,000 gallon capacity tank.

Example 2—Size outside the ranges: A bolted steel oil storage tank has a capacity of 18,000 barrels of oil. Perform these steps:

- 1 Locate the oil storage tank schedule for the bolted steel type.
- 2 The capacity increment difference between the 15,000 barrel capacity and the 10,000 barrel capacity is 5,000 barrels. To determine the whole dollar amount for the oil storage tank, find the whole dollar amount difference between these two sizes and add one 5,000 barrel increment to the 15,000 barrel whole dollar amount.
- 3 In the “Base Rate” cell, enter the whole dollar amount determined in Step 2.

Note: The 18,000 barrel is rounded to the nearest capacity increment—20,000 barrels.

Type 2 Structures Based on Whole Dollar Rate

To determine the base rate for a Type 2 yard structure based on whole dollar rate, perform these steps:

- Step 1 Based on the type of yard structure, locate the appropriate cost schedule.
- Step 2 Locate the row containing the height or diameter, depending on the schedule. Locate the column that best describes the yard structure. Note the whole dollar amount at the intersection of the selected row and column.
- Step 3 In the “Base Rate” cell in the “Summary of Improvements” section, enter the whole dollar amount from Step 2.

If the diameter and height of a subject yard structure is between the parameters of the cost schedules, use the variables that are the nearest to the actual diameter and height of the structure to determine the whole dollar amount.

If the diameter and height of the yard structure is larger than the largest diameter and height, or smaller than the smallest diameter and height provided in the cost schedule, extrapolate to calculate the amount to add to or subtract from the whole dollar amount. When extrapolating, follow these guidelines:

- (a) For a diameter and height larger than those listed on the schedule, calculate the difference between the amount of the largest dimension in the first column and the amount of the next largest dimension in the first column. Add this difference to the amount of the largest dimension for each increment of dimension difference between the

largest and the next largest dimension in the first column. Repeat the procedure to calculate the whole dollar amounts in the second column.

- (b) For a diameter and height smaller than those listed on the schedule, calculate the difference between the amount of the smallest dimension in the first column and the amount of the next smallest dimension in the first column. Subtract this difference from the amount of the smallest dimension for each increment of dimension difference between the smallest and the next smallest dimension in the first column. Repeat the procedure to calculate the whole dollar amounts in the second column.

Example 1—Size within the ranges: A cylindrical dry storage bin has a diameter of 15 feet and a height of 50 feet. Perform these steps:

- 1 Locate the cylindrical type dry storage bin schedule.
- 2 Find the diameter of 15 feet in the first column. (The diameter is within the ranges of the first column, so the closest diameter in the schedule is chosen.)
- 3 Locate the height of 48 feet. (The height of 50 feet is within the range of the schedule heights, so the closest height in the schedule is chosen.)
- 4 In the “Base Rate” cell, enter the whole dollar amount for a height of 48 feet.

Example 2—Size outside the ranges: A concrete stack is 300 feet tall with a diameter of 16 feet. Perform these steps:

- 1 Locate the concrete stack schedule.
- 2 In the first column, determine that the tallest stack is 250 feet and that the stack heights are in increments of 25 feet ($300' - 250' = 50' \div 25' = 2$ increments of 25').
- 3 Determine the whole dollar amount difference between the 16' diameter value for 225' and the 16' diameter value for 250'.
- 4 Add two increments of the difference determined in Step 3 to the whole dollar amount in the schedule for the 16' diameter by 250' high stack.
- 5 In the “Base Rate” cell in the “Summary of Improvements” section, enter the whole dollar amount determined in Step 4.

Type 3 Structures Based on Whole Dollar Rate

To determine the base rate for a Type 3 yard structure based on a whole dollar rate, perform these steps:

- Step 1 Based on the type of yard structure, locate the appropriate cost schedule.

- Step 2 Locate the row containing the capacity that best represents the capacity of the yard structure.
- Step 3 Locate the column containing the height that best represents the height of the yard structure. At the intersection of the selected row and column, note the whole dollar amount.
- Step 4 In the “Base Rate” cell in the “Summary of Improvements” section, enter the whole dollar amount determined in Step 3.

If the capacity and height of a yard structure are within the parameters of the cost schedules, use the values that are nearest to the actual capacity and height of the structure to determine the whole dollar amount.

Note: The extrapolation procedures for a Type 3 yard structure are the same as the procedures for a Type 2 yard structure.

Type 4 Structures Based on Whole Dollar Rate

To determine the base rate for a Type 4 yard structure based on a whole dollar rate, perform these steps:

- Step 1 Based on the type of yard structure, locate the appropriate cost schedule.
- Step 2 Locate the Type 4 attribute, such as incinerator, applicable to the specific schedule and compare the subject to this attribute.
- Step 3 Locate the type of construction material applicable to the subject. Note the whole dollar amount.
- Step 4 In the “Base Rate” cell in the “Summary of Improvements” section, enter the whole dollar amount, determined in Step 3.

Note: Interpolation or extrapolation is not necessary in Type 4 schedules. Specific additional amounts are identified in the pertinent schedules.

Using Linear Feet

The cost schedules that use a linear feet base rate are:

- fencing
- masonry walls
- guardrails
- railroad siding
- retaining walls
- bulkhead piling.

To determine the base rate for a yard structure that uses a linear feet base rate, perform these steps:

- Step 1 Based on the type of yard structure, locate the appropriate cost schedule.

- Step 2 Locate the type of construction material that best represents the yard structure.
- Step 3 In the “Base Rate” cell in the “Summary of Improvements” section, enter the base rate per linear foot.

If the construction material is within the parameters of the cost schedules, use the type in the cost schedule that is nearest to the actual structure type to determine the linear foot rate.

*If the construction material is larger than the largest type or smaller than the smallest type provided in the cost schedule, extrapolate to calculate the amount to add to or subtract from the rates. The extrapolation procedure for these situations is the same as those used in the section **Using Area (Square Footage)** in this chapter.*

Using Other Methods

The cost schedules that use other methods of determining the base rates are:

- grain elevators (bushels)
- steel tanks and corrugated metal bins (bushels)
- horizontal storage (bushels)
- earth dikes (cubic feet)
- steel stacks (per foot of height)
- chimneys (per foot of height)
- golf courses (per hole)
- miniature golf courses (per hole)
- bleachers (square foot or seating)
- golf driving range (per station)
- sports stadium (per seating)
- mobile home parks (per site)
- drive-in theaters (per space)
- gaming riverboats (per person capacity).

The cost schedules for these structures are diverse and specific criteria are described to determine the base rate for each type. The steps to determine the base rate are similar to those described earlier in this chapter.

If the yard structure is within the parameters of the cost schedule, use the type in the cost schedule that is nearest to the actual type of structure to determine the base rate.

Many of the cost schedules indicate a rate that is to be used if the type exceeds the limits of the cost schedule. There are no extrapolation procedures necessary for larger sizes in these types of cost schedules. Extrapolation for sizes that are

smaller can be determined by following the guidelines provided earlier in this chapter.

For the cost schedules where rates have not been established for larger sizes, extrapolation can be performed by following the guidelines discussed earlier in this chapter.

Task 3—Determining the Adjusted Base Rate and Replacement Cost

The adjusted base rate for the yard structure is the base rate adjusted to take into account any relevant features identified for the structure, an adjustment for location, and the grade factor percentage. If the yard structure uses a cost schedule based on a factor other than a whole dollar amount, the replacement cost for the structure is its specified unit type, such as area, linear feet, bushels and so forth, multiplied by the adjusted base rate. If the structure uses a cost schedule based on whole dollar amounts, the replacement cost is the same as the adjusted base rate (rounded to the nearest \$10).

The shading in Figure 7-5 indicates the columns of the “Summary of Improvements” section that you complete when determining the adjusted base rate and replacement cost of the yard structure.

To determine the adjusted base rate and replacement cost for the yard structure, perform these steps:

- Step 1 Compare the features that you entered in the “Features” column in the “Summary of Improvements” with the features in the cost schedule for the yard structure. If the cost schedule indicates that the base rate should be adjusted because of one or more of the features, adjust the base rate accordingly.
- Step 2 Determine the location cost multiplier for your county and enter the multiplier in the “L/M” cell in the “Summary of Improvements” section. Instructions for determining the location cost multiplier are provided in Appendix G.
- Step 3 Divide the grade factor percentage corresponding to the grade entered in the “Grade” column in the “Summary of Improvements” section by 100 to arrive at a multiplier. Instructions for determining the grade factor percentage for a structure are provided in the section *Assigning Grades to Commercial and Industrial Yard Structures* in Appendix E.
- Step 4 Calculate the adjusted base rate by multiplying the base rate (adjusted for any features) by the multiplier obtained in Step 2 and then the multiplier obtained in Step 3:

$$\begin{array}{rcccl} \text{Adjusted} & = & \text{Base rate adjusted} & \times & \text{Multiplier} & \times & \text{Multiplier} \\ \text{base rate} & & \text{for features} & & \text{obtained} & & \text{obtained in} \\ & & & & \text{in Step 2} & & \text{Step 3} \end{array}$$

Enter the adjusted base rate in the “Adj. Rate” column.

- Step 5 *If the structure uses a schedule based on a unit of measurement other than a whole dollar amount*, calculate the replacement cost by multiplying the adjusted base rate (entered in the “Adj. Rate” column) by the structure’s unit of measurement (entered in the “Size or Area” column):

$$\begin{array}{rcccl} \text{Replacement} & = & \text{Adjusted} & \times & \text{Unit of measurement} \\ \text{cost} & & \text{base rate} & & \text{(area, linear feet, bushels, etc.)} \end{array}$$

Round the replacement cost to the nearest \$10 and enter it in the “Replacement Cost” column.

If the structure uses a schedule based on whole dollar amounts, round the adjusted base rate (entered in the “Adj. Rate” column) to the nearest \$10 and enter it in the “Replacement Cost” column.

Task 4—Calculating the Remainder Value

The yard structure's remainder value is its replacement cost adjusted for normal depreciation. The shading in Figure 7-6 indicates the columns of the "Summary of Improvements" section that you complete when calculating the remainder value of the yard structure.

IMPROVEMENT DATA AND COMPUTATIONS										SUMMARY OF IMPROVEMENTS																																																																																																																																																																																																																																					
Walls					Roofing					Circle One →					1 or A					2 or B					3 or C					4 or D					5 or E																																																																																																																																																																																																												
Pricing Key					S.F. AREA					Effective Perimeter					P.A.R.					Number of units					Average unit size					Floor					Basement					1st					2nd					3rd					4th																																																																																																																																																																																								
Brick					Built-up					Stone					Metal					Concrete					State/Tile					Frame or Metal					Shingle					C.B. or Tile					Insulation					Framing					B					Wood Joist					Fire Resistant					Fire Proof Steel					Reinf. Concrete					Flooring					B					Concrete					Wood					Tile or Carpet					Finish Type					B					Unfinished					Semi-finished					Finished Open					Finished Divided					Use					B					Store					Office					Apartment					Vacant or Aband					Heating & Air Conditioning					No Heating					Central Warm Air					Hot Wat. or Steam					Unit Heating					Central Air					Package or Unit Air					Sprinkler					Plumbing Fixtures					#					TF					Full Baths					Half Baths					Extra Features					TOTAL				
Other Features					G/F					ES					SS					Value					Description					ID					Use					Story Height					Const. Type					Grade					Year Const.					Age					Ef. Age					Cont.					Base Rate					Features					L/M					Adj. Rate					Site or Area					Replacement Cost					Norm. Depr.					Remainder Value					Obsolet. Depr.					True Tax Value																																																																																																																							
O T E N																																																																																																																																																																																																																																															
TOTAL																																																																																																																																																																																																																																															
Wash Fountains Circular 36" Circular 54" Semi-circular 36" Semi-circular 54" Industrial Gang Sinks 4' long, 4 man 8' long, 8 man Shower - Column Circular, 5 per Semi-circular, 3 per Corner, 2 per, Shower Multi-Stall Circular, 5 per Semi-circular, 3 per Corner, 2 per No. Fixtures Gang Shower Heads Drinking Fountains Refrigerated Water Coolerswith Hot & Cold Water Emergency Showers/Eye Wash																																																																																																																																																																																																																																															
Appraiser / Date																																																																																																																																																																																																																																															
Data Collector / Date																																																																																																																																																																																																																																															
Total True Tax Improvement Value																																																																																																																																																																																																																																															

Figure 7-6. Columns Completed in Task 4

To calculate the remainder value of the yard structure, perform these steps:

- Step 1 In the “Eff Age” cell enter the effective age determined from Table F-2 in Appendix F.
- Step 2 Determine the total life expectancy for the yard structure from Table F-3e in Appendix F.
- Step 3 In the “Normal Depr.” column, enter the percentage of reduction in value due to normal depreciation determined from Table F-4 in Appendix F. Information about determining normal depreciation for a general commercial or industrial structure is provided in Appendix F.
- Step 4 Determine the remainder value:
- Subtract the percentage determined for normal depreciation (entered in the “Normal Depr.” column) from 100%.
 - Divide the result obtained in Step a by 100 to arrive at a multiplier.
 - Calculate the remainder value by multiplying the replacement cost of the structure (entered in the “Replacement Cost” column) by the multiplier obtained in Step b:
$$\begin{array}{rcccl} \text{Remainder} & = & \text{Replacement} & \times & \text{Multiplier} \\ \text{value} & & \text{cost} & & \text{obtained} \\ & & & & \text{in Step b} \end{array}$$
 - Round the remainder value to the nearest \$10 and enter it in the “Remainder Value” column.

Example: The replacement cost of a structure is \$8,000. The normal depreciation percentage for the structure is 30%. The remainder value is:
 $100\% - 30\% = 70\% \div 100 = .70 \times \$8,000 = \$5,600.$

Task 5—Calculating the True Tax Value

The yard structure's true tax value is its remainder value adjusted for obsolescence depreciation, if necessary. The shading in Figure 7-7 indicates the columns of the "Summary of Improvements" section that you complete when calculating the true tax value of the yard structure.

Step 1 *If no abnormal obsolescence depreciation applies to the yard structure, round the remainder value to the nearest \$100 and enter the amount in the “True Tax Value” column. Skip Step 2 and Step 3.*

If abnormal obsolescence depreciation applies to the structure, divide the dollar amount of abnormal obsolescence by the remainder value to get an abnormal obsolescence depreciation percentage. Enter this percentage in the “Obsol. Depr.” column of the property record card.

Step 2 Subtract the percentage determined for abnormal obsolescence depreciation (entered in the “Obsol. Depr.” column) from 100%.

Step 3 Divide the result obtained in Step 2 by 100 to arrive at a multiplier.

Note: This column can also be utilized to make adjustments for improvements less than 100% complete. Be sure to indicate what you have done in the memorandum section.

Step 4 Calculate the true tax value by multiplying the remainder value of the structure (entered in the “Remainder Value” column) by the multiplier obtained in Step 3.

True tax value = Remainder value x Multiplier obtained in Step 3

Round the result to the nearest \$100. Enter the rounded true tax value in the “True Tax Value” column.

Example: The remainder value of a structure is \$5,600. The abnormal obsolescence depreciation percentage for the structure is 20%. The true tax value is: $100\% - 20\% = 80\% \div 100 = .80 \times \$5,600 = \$4,480$ rounded to \$4,500.

Task 6—Calculating the Total True Tax Improvement Value

Calculate the true tax value for each structure by performing Task 1 through Task 5 for each yard structure. If you run out of rows in the “Summary of Improvements” section of the property record card, use an additional card (or cards).

To calculate the total true tax value for the property, perform these steps:

Step 1 *If you used **only one** property record card to complete the “Summary of Improvements” for the property, sum the entries in the “True Tax Value” column and enter the total in the “Total True Tax Improvement Value” cell.*

*If you used **more than one** property record card to complete the “Summary of Improvements” for the property, on each card except Card 001, sum the entries in the “True Tax Value” column and enter the total for each card in the card’s “Total True Tax Improvement Value” cell.*

- Step 2 Sum the entries in the “Total True Tax Improvement Value” cell of all of the property record cards except Card 001.
- Step 3 On Card 001, sum the entries in the “True Tax Value” column of Card 001 and add the result to the “Total True Tax Improvement Values” calculated in Step 2. Enter the grand total in the “Total True Tax Improvement Value” cell on Card 001.

THIS PAGE INTENTIONALLY LEFT BLANK.